Amendments to the Specification:

Please replace the paragraph beginning on page 5, line 1, with the following rewritten paragraph:

The protein of the invention may be any one of proteins having either of an amino acid residue that coordinates to the selected metal ion of the metal complex and an amino acid residue that forms a non-covalent bond to the ligand of the metal complex in the cavity thereof, multimers of such proteins, and variants of such proteins. The protein of the invention may otherwise be any one of proteins having the cavity in a heme site by removing a heme from heme-containing proteins, multimers of such proteins, and variants of such proteins. Concrete examples include apomyoglobin, apohemoglobin, apoheme oxygenase, apocatalase, apocytochrome, apoferritin, and their variants. The terminology 'apo' is a prefix representing a protein having a defective cofactor or a defective prosthetic group. Apomyoglobin and apohemoglobin have a defective heme, and apoferritin has a defective iron ion. The variant of the protein preferably has a replacement of an amino acid residue at a position affecting the chemical reaction field of the metal complex received in the cavity of the protein with another amino acid residue suitable for the chemical reaction. The variant of apomyoglobin is, for example, apomyoglobin (a polypeptide chain of 153 amino acids) having a replacement of one or ~~plurality~~ more of ~~a~~ the 64th amino acid residue, ~~a~~ the 71st amino acid residue, ~~a~~ the 93rd amino acid residue, and ~~a~~ the 107th amino acid residue. Especially preferable is an apomyoglobin variant having a replacement of ~~a~~ the 64th histidine (His64) with an amino acid residue smaller than histidine, such as ~~glycin~~ glycine or alanine.

Please replace the paragraph beginning on page 9, line 22, with the following rewritten paragraph:

~~Fig. 2~~ Figs. 2(a)-2(d) ~~shows~~ show syntheses of various metal complex-protein composites.

Please replace the paragraph beginning on page 11, line 16, with the following rewritten paragraph:

All the operations for the synthesis were performed at a temperature of 4°C. Histidine as ~~a~~ the 64th amino acid residue of myoglobin was replaced with alanine according to the procedure disclosed in a cited reference (T. Matsui et al. J. Am. Chem. Soc., 1999, vol121, p9952-9957). The variant myoglobin is hereafter referred to as SW H64A Mb. The variant myoglobin SW H64A Mb was processed by the acid-butanone method described in a cited reference (F.Ascole et al. Method Enzymol. 1981, vol76, p72-87) and was successively dialyzed with 1 mM, 5 mM, and 10 mM Tris/HCl buffer solutions (pH 7.0) for 2 hours each. This gave apomyoglobin, which is hereafter referred to as apo-H64A Mb. The procedure then mixed apo-H64A Mb with 10 mM Tris/HCl buffer solution (pH 7.0) (385 μM, 18 ml), added the acetone solution of the rhodium complex (10 mM, 1.038 ml) obtained in Example 1 with stirring to an equivalent ratio of 1.5 Rh to 1 Mb, and stood still at 4°C for 10 minutes. The resulting mixed solution was dialyzed overnight with 1 liter of 10 mM Bis Tris/HCl buffer solution (pH 6.0). The reconstructed rhodium complex-apomyoglobin composite Rh(dppe)·apo-H64A Mb was purified by gel filtration with G25 and G50 (10 mM Tris/HCl buffer solution (pH7.0)). Here G25 and G50 respectively represent Sephadex G25 Medium and Sephadex G50 Medium (manufactured by Amersham Biosciences K.K.). The resulting composite was identified by ESI-TOF MS, UV-vis analysis, and atomic absorption spectroscopy. The observed value by ESI-TOF MS was 17764.8, which well agreed with the calculated value 17765.4. The absorption maximum wavelength of the composite in UV-vis (ultraviolet-visible spectroscopy) was 259.5 nm, which was lower than the absorption

maximum wavelength of apo-H64A Mb (280 nm). The concentration of Rh was determined to be 1.77 mM by atomic absorption spectroscopy.